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ABSTRACT

Addressing the question, "What can be done to promote school achievement?", this paper summarizes the literature on motivation relating to classroom achievement and school effectiveness. Particular attention is given to how values, ideology, and various cultural patterns impinge on classroom performance and serve to enhance motivation to achieve. In defining motivation and achievement, five identifiable behavior patterns are outlined along with an explanation of personal investment as a unifying concept for those patterns. Also, a description of the motivational cycle is provided and the rewards for personal investment in the educational process are briefly discussed. Next, the determinants of motivation and personal investment are examined in terms of the following factors: motivation as a personal trait; motivation and thoughts about the self; motivation and achievement goals; value attached to the task; and situational influences on motivation. Finally, a theory of personal investment stressing the role of cognitive mediators in determining motivation is developed. References and figures are appended. (DST)

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MOTIVATION AND SCHOOL ACHIEVEMENT

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Motivation and School Achievement

It has been said that as a society we are concerned, perhaps obsessed, with achievement. The media remind us repeatedly that the United States may no longer be a leader in industrial productivity and may soon lose its dominant role in science and technology. Simultaneously, there exists the fear that achievement in schools, or lack of it, may be a component in the overall picture of decline. The role of schools in contributing to the perceived crisis in achievement is unclear, although there is evidence that the public school is not all that we want it to be. Particularly disturbing is the possibility that achievement in secondary schools is not on a par with that of other highly industrialized societies, such as Japan, and that the situation may be getting worse (Harnisch, 1984).

Concerns about improving achievement prompt questions about motivation. Formal and informal observations of Japanese and American work patterns in school (Stevenson, Lee, & Ichikawa, in press) and on the job (Cole, 1979; Maehr & Braskamp, 1986; Ouchi, 1981) stress motivation as a major factor, suggesting even that the "work ethic" has been lost in our society. Work on educational productivity underlines the role of motivation.

Estimates of the importance of motivational variables in education vary. The most sustained attention to the topic has been given by Walberg and his colleagues (Uguroglu & Walberg, 1979; Walberg, Pascarella, Haertel, Junker, & Boulanger, 1982). Generally, their findings indicate that motivation accounts for between 11 and 20% of the variance in classroom achievement. It may seem that motivation is only a minor explanatory variable, but when considered in light of other factors, this variable

is not insignificant. The greater share of the variance is attributable to factors over which educators have little or no control, such as social background or ethnicity. The amount of variance explained by motivation, then, represents a possibility for action. Moreover, the explained variance may not be as small as Walberg's estimates suggest; his definition of motivation was a narrow one, and procedures for assessing it were limited. As Walberg and his colleagues themselves point out, motivation cannot be ignored in the analysis of educational productivity; motivation is not the only factor, but it is a critical one (Kremer & Walberg, 1981).

The purpose of this chapter is to summarize the literature on motivation relating to achievement in the classroom. Attention also will be given to how values, ideology, and various cultural patterns impinge on classroom performance and serve to enhance motivation to achieve. The overriding question is, What can be done to promote school achievement?

MOTIVATION AND ACHIEVEMENT DEFINED

Self-evidently, motivation and achievement are important issues in a discussion of the role and work of American schools. However, it is difficult to define how motivational factors are critical to achievement, and we first must specify what is meant by motivation and achievement. Folklore has it that motivation concerns the inner states of the person--needs, drives, psychic energies, unconscious wishes, etc. However, we must consider more precisely the behavioral patterns that make teachers, researchers, principals, and parents think that motivation is involved in a child's behavior. Although when people talk about motivation, they refer to a wide variety of activities, for the most part such talk relates to five identifiable patterns of behavior. The study of motivation begins with observations of the existence of and variations in these patterns.

1. Direction. An apparent choice among a set of possibilities for action is the first indicator of motivation. When a person attends to one thing and not another, we infer that he or she is motivated in a certain way. The choices that students make among behavioral alternatives suggest varying motivation (for example, when a student elects to take an after-school computer course rather than try out for the basketball team). Similarly, as one child works busily at his or her desk while another chats to a neighbor, we use the term motivation. In school, work, or play, it is choice among possibilities that prompts us to infer motivation.

2. Persistence. Persistence is the second behavioral pattern that forms the basis for inferences about motivation. When a person concentrates attention on the same task or event for extended periods of time, observers infer varying degrees of motivation. Long hours spent in the laboratory thus are taken as an index of a scientist's motivation.

3. Continuing motivation. A behavioral pattern that suggests powerful motivational forces is a return to a previously encountered task or task area on one's own, without external constraint to do so. It is the child who uses a free moment to do additional problems, check out an extra book to find out more about insects, or try out a new physics experiment who is thought to be motivated. Maehr and his colleagues (Fyans, Kremer, Salili, & Maehr, 1981; Maehr, 1976; Salili, Maehr, Sorensen, & Fyans, 1976; Sorenson & Maehr, 1976) have referred to this pattern as "continuing motivation" and have explicated its nature and origins, relating it to work on intrinsic motivation (Deci, 1975, 1980). While interpretable as one more index of motivation, continuing motivation takes on special significance for teachers because this sort of motivation in students is a crucial outcome for many educators (Maehr, 1976). While continuing motivation is

similar to persistence, it has its own distinguishing characteristics. Whereas persistence is characterized by uninterrupted attention to the task, continuing motivation involves a return to a previously encountered task or task area.

Continuing motivation, persistence, and apparent choice occur when the same direction in behavior is retained--in other words, when the person repeatedly chooses the same (or a very similar) behavioral activity while rejecting alternatives. In a sense, these three behavioral patterns are separate examples of a choice made or a behavioral direction taken.

4. Activity. Activity level is a fourth behavioral index of motivation. Observably, some people seem to be more active than others. However, activity level is a more complex and less reliable indicator than choice, persistence, or continuing motivation. More so than for these three patterns, physiological factors are likely to be implicated in level of activity, complicating matters considerably. In addition, assumed differences in motivation are attributable not to activity but to direction (Maehr, 1974a). Although it may not be clear whether or not activity level is a predominant indicator of motivation in the majority of classrooms, this index nonetheless should be taken into account.

5. Performance. The final example of a behavioral pattern that prompts motivational inferences is variation in performance. If variation in performance cannot readily be explained in terms of variation in competence, skills, or physiological factors, then a motivational inference may be drawn. Teachers can cite instances in which "good" students fail and "bad" students show sudden improvement. Sometimes these slumps and jumps can be related to the acquisition of a necessary skill or to physiological

factors such as illness. However, when these factors are not apparent, a motivational explanation may be appropriate.

Performance level is not a pure measure of motivation but a product of other factors, including a combination of motivational patterns. In other words, choice, persistence, continuing motivation, and activity level are all likely to be reflected in performance level. One might argue that such patterns provide only a crude measure of motivation, yet, perhaps because performance level is often the "bottom line" in a rationale for studying motivation, such behavioral patterns should be taken seriously. In any event, because variation in level of performance often leads to motivational inferences, this pattern finds a place in the present taxonomy.

These overlapping behavioral patterns may not be all-inclusive. They need further elaboration as specific instances and issues arise, and they need specification as measurement and research procedures are constructed. It may be argued that they represent not observations but judgments about behavior. However, when teachers ask how they can motivate students, they are asking how they can direct students to do one thing, such as reading, and avoid other things, such as socializing, fighting, or daydreaming. Teachers also are concerned with students' persistence and hope that their pupils engage in constructive activities not only when teachers demand them, but also in free moments at school, at home, or elsewhere. Moreover, teachers expect that persistence and continuing motivation to attend to these activities will result in increased levels of performance. In short, motivation and behavior are intertwined, and consideration of one is impossible without consideration of the other.

Motivation as Personal Investment

While there is merit in stressing the behavioral base for motivational inferences, there also is value in considering unifying principles that might underlie these somewhat disparate behavioral patterns. The concept of personal investment has been used in discussing a wide array of activities that people pursue, the weight they place on these activities, and the direction of their lives (Maehr & Braskamp, 1986). The metaphor implicit in the term "personal investment" captures the *underlying* meaning of patterns associated with motivation--that is, when behavioral direction, persistence, performance, continuing motivation, and variation in activity level are observed, a person is investing his or her personal resources (time, talent, energy) in a certain way.

The image evoked by the idea of personal investment is one of distribution, not availability, of resources; the emphasis is on motivational differences rather than deprivation (Maehr, 1974a; Nicholls, 1979). Although people may have differing levels of motivation, the direction of behavior and the choices and preferences they exhibit are also important. The assumption of motivational differences rather than deprivation may be desirable in the study of motivation in people of varying social and cultural backgrounds (Maehr & Nicholls, 1980), and it also may be argued that such differences must be assumed in making cross-age comparisons (Maehr & Klebier, 1981). In short, the idea of personal investment expresses the dual possibilities that people exhibit both qualitative and quantitative differences in motivation.

With this distinction in mind, it may be wise to avoid the assumption that a child is lacking in motivation and to consider the possibility that the classroom situation is not eliciting his or her effort (Maehr, 1978).

However, one cannot rule out the possibility that people do vary not only in how, when, and where they are motivated, but also in their overall level of motivation.

The Motivational Cycle

The definition of motivation in terms of behavioral patterns and personal investment helps to specify motivation. It is also useful to define motivation in relation to other processes and events. One way to do this is to describe a typical motivational cycle in a particular setting. Figure 1 outlines the motivational cycle as it might exist in a classroom.

Insert Figure 1 about here

As illustrated in this figure, motivation (as evidenced by choice, persistence, and activity level) is viewed as a primary antecedent of performance. However, motivation in turn is affected by the performance that eventuates and by the way this performance is appraised. Typically, motivation does not influence performance in a direct and simple manner. Other factors are involved: a person may not possess the necessary skills, the organization of the task may be overly complicated or inappropriate, and disruptive peers may hinder a person's concentration. One can imagine effective and ineffective effort. If the task is poorly defined or badly organized--or if the necessary tools are not available--effort may be misdirected or misused.

Another feature of the cycle concerns level of performance. While a desired level of performance may be evident to students without any input from teachers, as in the case of individualized instructional programs, in many cases a process of appraisal takes place in which significant others

(teachers, parents, peers, etc.) play an evaluative role. It is the outcome as socially defined and as perceived by the student that feeds back into the motivational cycle (cf. Frieze, 1980; Frieze, Shomo, & Francis, 1979).

Payoffs for Personal Investment

The terms "motivation" and "personal investment" place no value on how people use their time, talent, and energy. Educators, however, cannot be expected to consider motivation and personal investment without focusing on payoffs. What comes from distribution of one's personal resources? Is it good or bad? Is it equally so from different perspectives? These questions are at the heart of the issue for those concerned with school achievement. The concern is not whether the student is motivated but whether he or she is motivated in a desirable way. Many desiderata stem from an investment in the educational process; several of them are briefly described below.

Achievement. Achievement is the first payoff of motivation. When educators worry about decreasing SAT scores, they mean school achievement; when leaders in industry worry about achievement, they mean economic productivity. Likewise, historians may consider the waxing and waning of societies in these terms. Achievement should not be defined in such a way that this array of meanings is ignored, but it should be defined to allow for systematic analyses, both social and psychological.

For the purpose of this discussion, achievement involves observable and measurable performance that takes place in the presence of a standard of excellence. Generally, such standards are socially derived or related; achievement is considered in terms of success and failure in things that

society deems valuable, such as school success or a flourishing career. Although achievement may be viewed as a characteristic of societies, groups, and institutions, in this discussion we are interested primarily in individual achievement. According to this definition, the person must be an actor in an event. Finally, uncertainty of outcome is significant--behavior entered into without question of outcome is not achievement behavior. The possibility of both success and failure must be perceived for an achievement situation to exist. In sum, achievement involves personal accomplishment, something that can be attributed to individual ability and effort. Also, it is something that is valued by others in addition to the performer; it has social significance.

Personal growth. Personal growth is a second outcome of personal investment. Does investing oneself in a task lead to enhancement of ability, skill, or competence? People do not necessarily choose tasks that enhance their competence. In their spare time, some people may opt to upgrade the skills they use in their work. Others may choose leisure activities that bear little relation to their professional lives. All these activities have their place, but they may have different effects on the course of a person's life, and they may "pay off" quite differently.

Life satisfaction. Additional payoffs of motivation are life satisfaction and mental well-being. Of concern is the issue of matching personal investment patterns with levels of satisfaction. Patterns that end in achievement are valued by our society--but what is it that makes people happy? While the answer to this is elusive, any discussion of motivation and personal investment must consider affective payoffs. Does investing oneself in such a way as to excel carry with it a price in terms of life satisfaction? A study of highly talented and gifted performers

indicates that it may. Bloom and his colleagues (Bloom, 1982a, 1982b) have studied world-class performers in music, art, sports, and science. They argue that some price in family solidarity and satisfaction is paid by these exceptional people. However, findings indicate that extreme investment in achievement does not necessarily eventuate in deep regret, dissatisfaction, or neurotic symptoms.

DETERMINANTS OF MOTIVATION AND PERSONAL INVESTMENT

What causes people to invest themselves in certain ways? What factors influence motivation? What do we know about motivation and school performance? There are two ways to approach these questions: the first is to focus on the person and determine whether anything about previous experience helps us understand present behavior; the second is to examine factors external to the person that may influence behavior in a particular context. Because behavior always is a product of both person and situation, complex interactions can be expected to occur between these two factors.

Motivation as a Personal Trait

Perhaps the most common assumption about motivation, particularly motivation that leads to achievement, is that some people have a built-in personality trait (or traits) that leads them to productive activity. No one has explored this possibility more thoroughly than David McClelland, who, in a series of studies beginning in the 1940s, initiated a program of research that mapped out the territory for the study of motivation and achievement (McClelland, 1961, 1971, 1978, 1985; McClelland & Winter, 1969).

In his most ambitious project, McClelland (1961) examined the effect of personality on society. In brief, McClelland argued that a child is exposed to people and situations, taught things, and treated in one way

rather than another. Formally and informally, often without thought or plan, he or she participates in a set of learning experiences that fosters continuing patterns. These patterns may be more or less effective in fostering achievement-related behaviors. If effective, they will create a pool of potential leaders who are achievement-motivated, and, assuming there is nothing to prevent the society from drawing its leadership from this pool, an achievement-motivated leadership should come to dominate national affairs. Society as a whole therefore exhibits the characteristics of the achievement-motivated person.

While one might define social achievement more broadly, McClelland focused on economic achievement, a type relatively easy to compare across societies. Surprisingly, McClelland did find evidence that achievement-oriented practices in childrearing were likely to eventuate in an "achieveing society." This evidence consisted of correlations between the economic achievement of a society (adjusted for potential in terms of natural resources) and an index of the learning environment that would have been experienced by adults when they were children. While these correlations are not high and anomalies exist in the data, it does seem that McClelland's hypothesis is more than speculation: society does insure its future as it rears its children.

While McClelland's work raised many questions about motivation and achievement, it did not solve all the problems, nor did it provide a guide for research today. Ample criticism of his work is to be found elsewhere (Maehr, 1974a, 1978; Maehr & Nicholls, 1980). Nonetheless, McClelland's research emphasized the continuing and pervasive role of early learning experiences in determining how people respond to situations. His findings

underscore the possibility that some people, perhaps some groups, acquire a "motivational talent," which they exercise even as circumstances change.

Motivation and Thoughts about the Self

Generally, contemporary researchers on motivation and achievement are not inclined to think of a general motive or trait associated with achievement. Rather, their emphasis is on cognition--the thoughts, feelings, beliefs, and meanings people hold and the way these conditions influence attitudes towards learning. Researchers have demonstrated the importance of sense of control. Deci (1975, 1980) and deCharms (1976, 1984) both stress that a person's behavior may be modified by his or her sense of initiating events rather than being controlled by them. One of the strongest predictors of achievement behavior mentioned in the Coleman report on educational equality (Coleman & Associates, 1966) was perceived locus of control, or the degree to which people feel they have control over their immediate situation.

DeCharms (1976, 1984) attempted to reverse the desperate state of an inner-city school in which both students and teachers had little interest in what was going on in the classroom. By giving students a degree of choice over what they were doing, as well as responsibility for the outcome, deCharms attempted to teach them to think of themselves as determiners of their own behavior. He reasoned that, if students felt they were in control of their behavior in school, they would be more prepared to study. However, he found it impossible to change the behavior of the students without changing that of their teachers. Conditions had to be altered so that teachers, as well as students, felt like "origins" rather than "pawns" within the system. As teachers developed a sense of being in

control of their teaching, they were able to transfer a similar belief to their students. Thus, a belief in self-determination, coupled with a sense of ownership, was found to be important in enhancing student morale and achievement.

Bernard Weiner (1979, 1984) proposed that achievement motivation could be understood in terms of attributions, that is, the causal judgments people make following personal experiences of success or failure. In an early study (Weiner & Kukla, 1970), Weiner demonstrated that people who scored high on a measure of achievement motivation attributed their success to something they personally had done rather than to luck or to ease of the task. Conversely, they attributed failure to external factors. People who scored low on the measure of motivation showed a contrasting pattern in which failure was attributed to internal factors such as a lack of ability and success was attributed externally.

During the last 15 years or so, a large body of research has been built upon Weiner's pioneering work in attribution theory. Researchers have concerned themselves with the causes people assign to their successes and failures in academic situations and with how these attributions in turn affect behavior.

While this focus on attributions has highlighted the importance of the immediate situation on motivation, consideration also should be given to the proposition, emphasized by McClelland, that experience imbeds itself in enduring behavioral predispositions. Early experiences both in and out of school influence how children feel about their abilities and about the relevance and value of activities. These feelings are critical antecedents of achievement. It seems clear that people who are confident in their ability to achieve will seek out and perform tasks that serve to challenge

and enhance that ability (Fyans & Maehr, 1979; Maehr & Willig, 1982). Similarly, negative judgments about one's ability to succeed produce patterns of behavior that work toward fulfilling negative outcomes. Children's judgments about their ability have been found to be already well-established by the fourth grade (Fyans & Maehr, 1979).

Motivation and Achievement Goals

Carol Dweck and her colleagues (Dweck, 1975, 1984; Dweck & Bempechat, 1983; Dweck & Elliott, 1983) have identified two classes of achievement goals: learning goals and performance goals. People who hold learning goals, Dweck asserts, are concerned with their competence in performing a task and look for ways of increasing mastery of it. They adopt personal standards of success rather than external normative standards, and they expect that they will achieve success with expenditure of effort. They feel in control of the situation and derive satisfaction from task completion.

People with performance goals, on the other hand, are concerned with validating their competence and with obtaining favorable judgments of their competence, or at least avoiding unfavorable ones. They endorse external, normative standards of success and failure that involve evaluation of performance relative to that of others. In order to "win," they may select tasks in which there is a high likelihood of outperforming others. This may mean choosing a less-challenging task over a more-challenging one or selecting a task of little intrinsic interest if it offers a high possibility of success. Although people with performance goals can modify their own behavior, they cannot change the behavior of others, nor can they establish the criteria used to evaluate performance. As a result, they may feel little sense of personal control. Success is likely to be attributed

to the possession of ability rather than to the expenditure of effort, and a sense of satisfaction comes from the validation of the possession of ability. Dweck points out that, while people tend to hold both learning and performance goals simultaneously, in some cases conflicts occur and a choice between them must be made.

Value Attached to the Task

While research has focused on subjective judgments about one's ability and the goals one holds, the value of the task likewise is important. McClelland (1961) emphasized the value component in achievement, particularly in relation to differences among societies and sociocultural groups. This point also has been stressed by others (Fyans et al., 1981; Maehr, 1978; Parsons & Goff, 1980; Triandis & Brislin, 1980; Triandis & Associates, 1973) but has not been as thoroughly researched as one might expect. Perhaps because it seems self-evident that one does what one values, few have analyzed the concept of valuing as a psychological process or have related valuing to differential achievement patterns. In one study by Willig, Harnisch, Hill, and Maehr (1983), it was found that the achievement of black students was more attributable to the value they placed on school tasks than to their perceptions of their ability.

In reviewing research on personality and motivation, several conclusions are apparent. First, it is difficult to ignore a continuing effect of previous experience on the way one approaches achievement situations. In particular, beliefs about oneself as adequate to perform tasks are critical, as are acquired goals and beliefs about what is valuable. These basic motivational orientations often are formed early in life outside schools and are not always amenable to change by teachers, though some

intervention programs have proven successful (deCharms, 1976, 1984; Kleiber & Maehr, in press; McClelland & Winter, 1969).

Situational Influences on Motivation

Although a person's previous experiences affect motivation, past experience alone does not determine present motivational patterns. Extensive research has been devoted to determining the characteristics of situations that affect motivation--in particular, social expectations, school characteristics, the nature of the task, task dimensions, and the structure of the learning environment.

Social expectations. People do not act in isolation from the social groups to which they belong. These groups in large part determine for their members what is worth doing and what is expected of each of them. Expectations or norms define options for behavior: where, how, and to what degree people will invest their time, talent, and energy.

In addition, the roles that members play are accompanied by different expectations for performance. Equally interesting is the effect of filling a social role on motivation and performance. Even the temporary assignment of a leadership role, for example, seems to be followed by increased achievement motivation (Zander & Forward, 1968). Within the social group, higher status people seem to be encouraged to achieve, whereas lower status people are discouraged (Maehr, 1974a, 1974b, 1978). In sum, a person's place among peers has important effects on motivation--change the situation, the peers, or both, and motivation often changes, sometimes drastically so.

A second type of expectation is conveyed by significant others, such as teachers. Teacher expectations have been a focus of research for several years (Brophy, 1983, in press; Cooper, 1979, 1983; Peterson & Barger, in press). This research suggests that the expectations teachers

hold affect the quality of the interactions they initiate with students. These expectations are not always conscious and, at times, are invalid. What is disturbing is the evidence that expectations can serve as self-fulfilling prophecies. Weiner and Kukla (1970) suggest, for example, that teachers fulfill expectations when they attribute student performance to ability, effort, task difficulty, or luck. Teachers are in the business of evaluating performance and, perhaps unwittingly, they teach students about the causes of success or failure. However, by failing to monitor the relationship between their own expectations and the ways they interact with students, teachers may set low performance standards for students who are capable of more. One example of this phenomenon has been reported by Perry (1975), who indicates that teachers provide more probing types of feedback when they hold high expectations for students. Interactions between teacher and student can have a cumulative effect and may penalize the student who fails to make an early impression as a potential high achiever.

School characteristics. In recent years, there has been growing interest in the effectiveness of schools, spurred not only by falling scores on standardized tests but also by fears that students are failing to develop a long term desire for learning and are losing the ability to adapt in a rapidly changing environment. Researchers have demonstrated that the way schools are organized can affect students' productivity (D'Amico, 1982; Deal & Kennedy, 1983; Good & Brophy, in press; Sergiovanni, 1984). It seems that effective schools have developed a climate or "culture" that supports academic achievement. Many factors affect this climate--for example, leadership, curricular organization, administrative and teaching practices, and environmental characteristics. Researchers have been seeking to identify the most salient of these factors.

Purkey and Smith (1982) stress the need for dynamic leadership and high expectations for student performance. We have considered already the impact of teacher expectations on students' behavior and have mentioned the dangers of setting expectations too low. The role of the principal in an effective school is at least twofold: first, to act as a figurehead, a focus that unites the disparate elements of the school and emphasizes its common goals; and second, to work actively with teachers and students, helping and encouraging them to achieve those goals.

Task dimensions. The task itself also may be a significant determinant of motivation. First, the task may have structural features that affect motivation. For example, some tasks are more interesting than others. Why this is true is not clear, but research on intrinsic motivation suggests that a task possessing an optimum level of uncertainty and unpredictability tends to be attractive (Deci, 1975). It appears that there is a built-in attraction to these features in tasks.

Second, a task may have specific meaning in a particular sociocultural context. Is it an acceptable area in which to perform? One's social or cultural group may define the task as desirable, undesirable, or irrelevant. Barkow (1976) points out that the prestige ranking of a task within a cultural group may by itself best explain the motivation exhibited by members of the group. Further, tasks may be viewed as instrumental to valued ends, and success in their performance may confirm one's identity or enhance one's self-view (Maehr, 1974b).

Third is the issue of performance appraisal. The way appraisals are carried out may have far-reaching and unintended consequences. For example, studies have indicated that placing emphasis on testing and on teachers' evaluation of performance can have negative effects on student

motivation (Fyans et al., 1981; Hill, 1980, 1984; Maehr, 1976; Salili et al., 1976). While an emphasis on external evaluation momentarily may enhance performance, it may negatively affect continuing motivation by ruling out the establishment of more intrinsic, task-related goals (Maehr, 1976).

Similar to and perhaps implicit in the issue of evaluation and performance appraisal is the degree of freedom and choice that can be allowed in the performance of a task. Wang and Stiles (1976) conducted an investigation in which the effects of student selection and teacher selection of schoolwork schedules were compared (see also Wang, 1981). Results indicated that students were more likely to complete assignments in the former condition than in the latter. As described earlier, deCharms (1976), demonstrated improved productivity and enhanced motivation when students participated in planning their academic program. A study by Pascarella, Walberg, Junker, and Haertel (1981) demonstrated the importance of freedom in learning. While teacher control was associated positively with science achievement for both younger and older adolescent students, it was associated negatively with a measure of continuing motivation in science. Apparently, educational conditions that emphasize control of student behavior may produce desirable effects of a short term nature but may discourage continuing motivation.

Learning structure. Carole Ames and her colleagues (Ames, 1978, 1981, 1984; Ames & Ames, 1981; Ames, Ames, & Felker, 1977; Ames & Felker, 1979; Ames & McKelvie, 1982) have investigated the effects of different goal structures on students' motivational patterns. They examined three different situations: first, a competitive structure in which the goal was to complete a task better or faster than others; second, a cooperative

structure, in which students worked together to complete a common task; and third, an individualistic structure in which students worked singly, setting individual goals and trying to improve upon their past performances. In Ames' experiments, the impositions of the different goal structures appeared to trigger different motivational patterns in students--they paid attention to different cues, made different attributions following success and failure, devised different strategies to complete a task, and made different self-evaluations.

Briefly, the imposition of a competitive goal structure prompted students to compare their performance with that of their peers, to make attributions about the presence or absence of ability, and to be concerned with questions about "smartness" and their capability of completing a task. Imposition of a cooperative goal structure prompted students to consider their individual performance in relation to that of the group as a whole. A sense of moral responsibility, the need to work hard so as not to "let down" the group, was generated. The individualistic goal structure focused students' attention on their present task and on the amount of effort necessary to improve on prior performance. The emphasis was on task mastery and, to this end, on devising strategies to complete the task.

Like the work on school effectiveness, Ames' research suggests another way in which students' motivation to achieve may be enhanced. Within classrooms, teachers can reduce a competitive orientation, with its deleterious consequences for less able students, and impose in its place an approach that encourages students' desire to master tasks and promotes interest in learning for its own sake.

Summary

In general, research has shown that factors both internal and external to the person influence motivation to achieve. Internal factors include McClelland's early notion of motivation as a trait of personality as well as more current emphases on cognitions, or the way a person's beliefs, values, goals, and sense of being in control of a situation spur different motivations and patterns of behavior. Situational influences on students' motivation include expectations held by relevant social groups and, more directly, by teachers. School effectiveness--that is, viewing motivation at the level of the school as a whole--is also important. Characteristics of the task itself include structure, meaning, and appraisal. Finally, different motivational patterns may be triggered by the imposition of different goal structures. It must be stressed that not one but many of these factors operate to enhance or diminish motivation to achieve. In the next section, the personal investment theory (Maehr, 1984; Maehr & Braskamp, 1986) will be described in more detail to provide a basis for combining many of these factors into a coherent whole.

PERSONAL INVESTMENT: AN INTERPRETATION

In assessing school achievement, it may be helpful to bear in mind the concept of personal investment, which suggests that motivation is demonstrated by individual choices and which indicates further that performance "problems" should not necessarily be attributed to a lack of motivation. For example, the child who is considered unmotivated in class may be choosing not to direct attention to the task at hand. In another context, he or she may show all the energy that generally characterizes motivation. In a situation in which the child exhibits little motivation, the parent or

teacher might well consider what it is about the task that is not eliciting the child's attention.

Meaning and Personal Investment

The meaning of the situation to the person involved is critical; it determines how the participant chooses to invest himself or herself. Three types of perceptions or cognitions are particularly salient in forming meaning: first, the perception of options or action possibilities; second, views of oneself in relation to the situation, especially the view of oneself as capable of performing competently; and third, personal goals or incentives that spur behavior.

Perceived options. Perceived options refer to the behavioral alternatives that a person sees as available. That is, within a particular environment, some behaviors are more feasible than others. A boy growing up within an Amish community is more likely to become a farmer than a cabaret performer. In addition to what is perceived to be available, a person will have a perception of what is socially and culturally appropriate. Playing with a computer is not an option for many students from poor families, even though they may have seen one and know a bit about its properties. In any consideration of people's choice of behavior, the relevance of the behavior within their world is paramount. This is evident in the case of elite performers (Bloom, 1982a, 1982b). They were born into families who valued a particular activity, promoted and rewarded it, and knew how to facilitate achievement in it. Although not all children in such families develop their talent to the same degree, the opportunity must exist for the development of outstanding performance.

Sense of self. Given possibilities for action, what determines the precise course a person will take? As indicated earlier, recent research on motivation and achievement has moved away from a notion of a general motive or motivational orientation at the source of achievement behavior. Emphasis now is placed on judgments that people make about themselves in relation to a perceived situation. Four components of selfhood may figure in motivation: self-identity, self-reliance, goal-directedness, and sense of competence.

People have a sense of identity when they feel themselves to be part of social groups. Self-identity affects knowledge about and acceptance of social expectations and individual purposes and goals. Self-identity not only defines what is worth striving for but also defines how striving should occur.

Self-reliance concerns the perceived origin of events. Does the individual initiate events, or are they prompted by other people, things, or situations? As a rule, the perception that one plays a causal role in the outcome of an event is followed by increased effort. This perception of control is associated with intrinsic motivation, or increased effort that ensues apart from extrinsic rewards. In fact, extrinsic rewards appear to militate against the perception that one is an initiator, and the use of extrinsic rewards often subverts intrinsic interests and independent motivation (Lepper & Greene, 1978).

As defined by Maehr and Braskamp (1986), goal-directedness refers to the tendency to set goals and organize one's behavior accordingly. The person feels that he or she is becoming something rather than just being something (Allport, 1955). This category encompasses such com-

ponents of achievement over the long term as the ability to delay gratification (Mischel, 1974).

Sense of competence refers to subjective judgments people make about their ability to perform, or the judgment that they can or cannot do something. This judgment varies in degree and extent--it may be limited to one area or generalized across a variety of domains. This component of self is probably the one most often associated with achievement motivation (Covington, 1984; Kukla, 1978; Nicholls, 1983, 1984; Roberts, 1984a, 1984b).

Personal incentives. How perceptions of self affect motivation and achievement depends on the incentives people have. An incentive refers to the motivational focus of an activity: What does the person expect to get out of performing? What is the value of the activity? More concretely, how do people define success and failure in the situation? While one might imagine an infinite number of incentives, four categories seem to influence achievement patterns (Maehr, 1984; Maehr & Braskamp, 1986): task, ego, social solidarity, and extrinsic rewards.

Task personal incentives embrace two somewhat different purposes in performance. First is the performance situation described by Csikszentmihalyi (1975, 1978, in press), in which the person is absorbed totally in a task and social comparisons of performance are remote or nonexistent. Second is the desire to demonstrate competence, initially described by White (1959, 1960) and currently the object of considerable research (e.g., Harter, 1980, 1982; Harter & Connell, 1983).

Ego personal incentives refer to concerns about doing better than a socially defined standard, especially doing better than others. Whereas task-oriented incentives are, at most, self-competitive, ego incentives are explicitly socially competitive (Maehr & Sjogren, 1971). Achieving an

ego incentive involves beating someone, doing better than another, winning, being the best. Nor surprisingly, sense of competence becomes particularly important when ego incentives are salient.

Social solidarity incentives refer to the desire to gain social approval for one's behavior. Although these incentives are not always thought of in terms of achievement, pleasing significant others is a critical factor in many classrooms. For example, students may wish to demonstrate to the teacher that they have good intentions, mean well, try hard, and in this sense are "good" boys or girls. Demonstrating good intentions is a means of gaining social approval. When one holds a social solidarity incentive, demonstrating faithfulness is more important than doing the task for its own sake or showing that one is better than someone else.

Extrinsic rewards refer to incentives associated with earning money, prizes, or some other object of value not inherent in the performance of the task itself. Such rewards usually are alien to the task and alien to the person's reasons for performing it. In fact, it may be more appropriate to view these incentives not as ends in themselves but as subgoals whose attainment facilitates other personal and more intrinsic incentives. Work on the social psychology of extrinsic/intrinsic motivation (Deci, 1975, 1980; Harter, 1980; Lepper & Greene, 1978) has made it clear that external rewards do play a role in achievement.

Conditions Affecting Perceived Options, Sense of Self, and Personal Incentives

While perceived options, sense of self, and personal incentives may be viewed as mediating factors that determine motivation and personal investment, a question arises as to what factors or events are antecedent to

these perceptions. How does a person come to view himself or herself and a specific situation in a way that elicits greater or lesser effort?

One may think of meaning and personal investment as having their source in the dual factors of situation and person as well as in a complex of person/situation interactions. Figure 2 outlines some of the major factors that are likely to be important in this regard. Specifically, there are four antecedent categories: task design, personal experience, instruction, and sociocultural context. Underlying these categories are developmental/maturational factors--it is evident that cognitive development plays a major role in modifying the function of these factors. More directly, external factors affect the components of meaning differentially. Previous learning and personal experience are likely to have a major impact on sense of self, whereas instructional programs and the broader sociocultural milieu are important in defining perceived options. For example, a teacher's stressing learning for learning's sake (Dweck, 1984; Nicholls, 1979, 1984), or competition (Ames, 1978, 1981, 1984; Ames, Ames, & Felker, 1977; Dweck, 1984; Hill, 1980, 1984), or interpersonal relationships (Johnson & Johnson, 1979; Slavin, 1983) will likely affect students' goals for classroom performance.

Insert Figure 2 about here

CONCLUSION

As noted at the beginning of this chapter, there is a pervasive concern with the effectiveness of our public schools. Numerous journal articles, newspaper reports, books, and governmental commissions have

presented both fact and opinion on this issue. This chapter offers yet more material, but it is material undergirded by considerable research evidence.

Whether or not the claims of a marked decline in the quality of schools are justified, few would disagree with the proposition that schools can be improved. Those with the responsibility for effecting change should consider the role that motivation plays in determining the effectiveness of schooling and student achievement. Motivation is not the only cause of variation in student achievement, but it is an important one. Moreover, student motivation can be influenced by teachers and, more generally, by the "culture" of the school. Though students arrive at new situations with "experiential baggage" that affects how they behave, it is clear that the way learning tasks are defined, expectations are established, and goals are set also makes a difference in students' performance. In this chapter, current research on motivation as it relates to achievement and school effectiveness has been briefly summarized.

From this summary, a theory of personal investment stressing the role of cognitive mediators in determining motivation was developed. The stress on cognition suggests that motivation can be changed by what is done in the immediate situation: the way materials are presented, the way classrooms and schools are managed, the way learning tasks are organized, and the way students are treated. At the heart of personal investment theory is the contention that students invest themselves in learning tasks as they see meaning in those tasks. Much more remains to be done in identifying more precisely what teachers and administrators can do to enhance meaning for students and thus encourage their personal investment in academic achievement.

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Author Note

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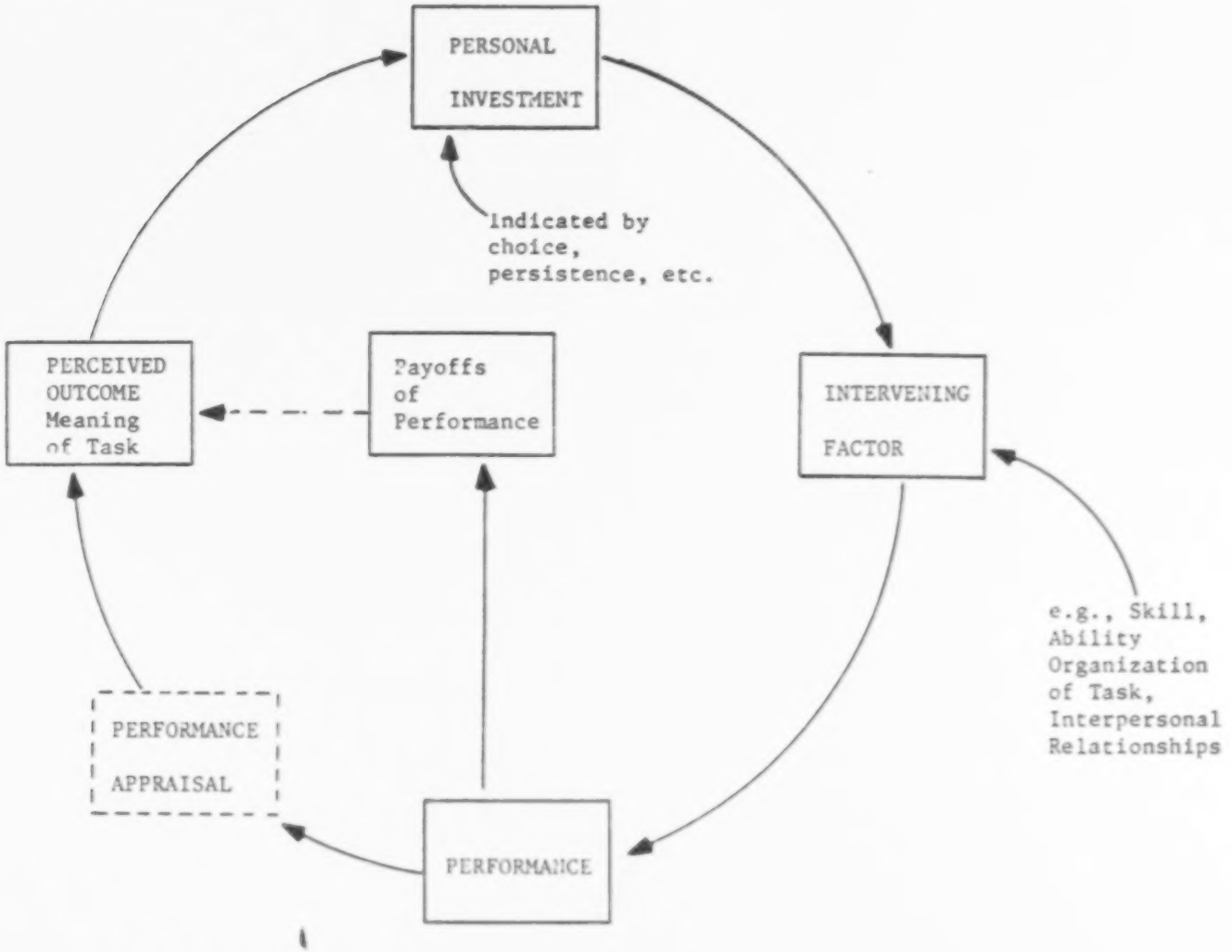

Figure 1. The Motivational Cycle

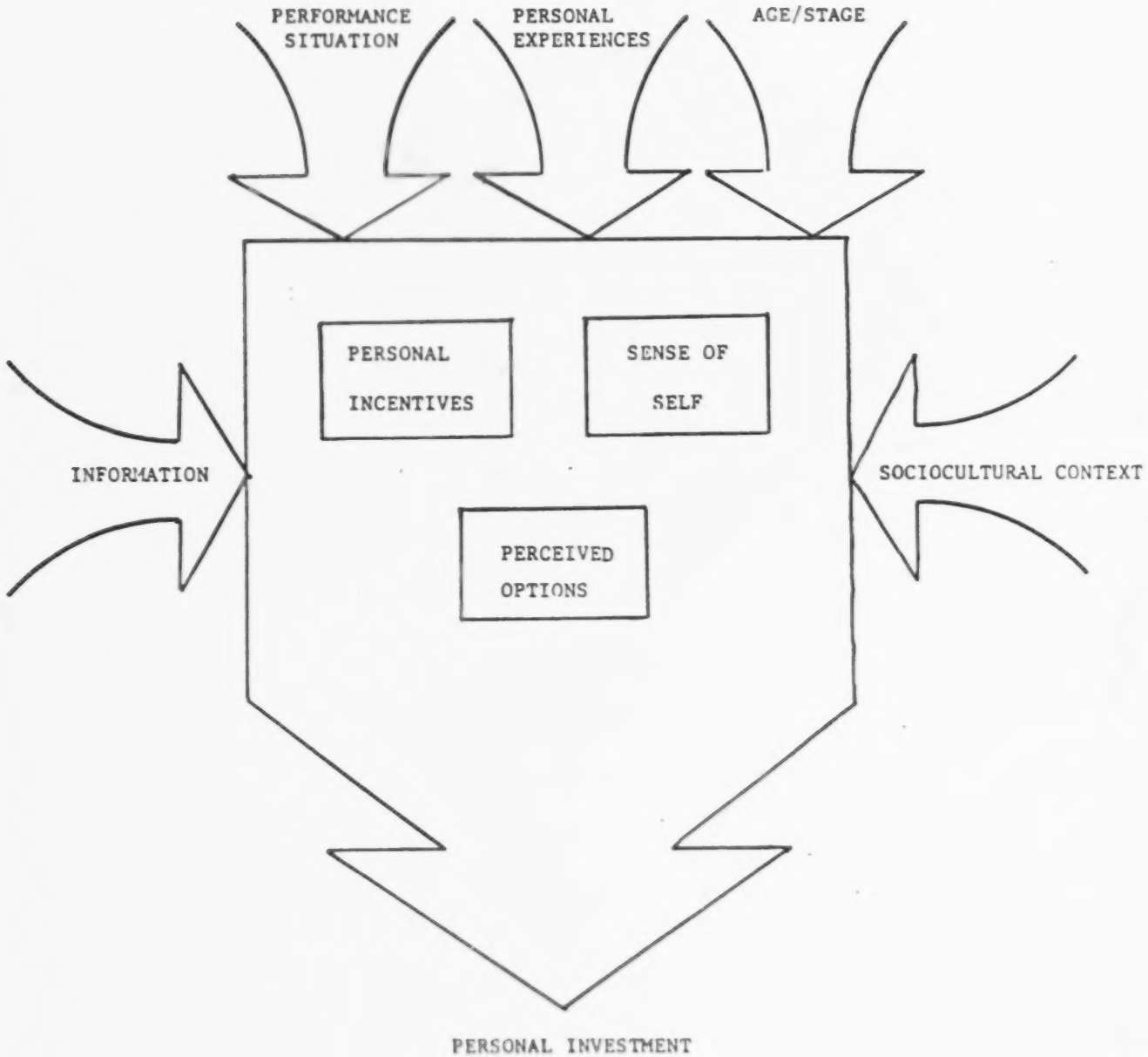

Figure 2. Antecedents of Meaning and Personal Investment